

**INTERNATIONAL PRELIMINARY  
REPORT ON PATENTABILITY  
(SUPPLEMENTARY SHEET)**

International Application No

PCT/EP2004/052558

**Concerning Point V**

**Reasoned assessment relating to novelty, inventive step and industrial applicability; citations and explanations to support this assessment**

5    **1.** The following documents are referred to:

D1: DE 1016033

D2: US 6,459,490

**2. Clarity.**

10    The application does not satisfy the requirements of Article 6 PCT because claims 1 and 4 are not clear.

15    **2.1.** The "optical means" are insufficiently defined in claim 1. In particular, an "entry pupil" is a clear technical characteristic only in relation with the aperture diaphragm positioned with respect to a focusing element. Furthermore, the exact relation between the "optical means" and the "optical path" which has a "catadioptric configuration" is vague.

20    **2.2.** Claim 1 does not seem to be consistent with the description, in particular with the passage on page 4, lines 26-32 [page 5, lines 24-32 of the English] describing four separate sensors respectively picking up the parts of the object field. In fact, it would seem according to the terms of claim 1 that it is the same sensor which receives the various parts of the object field, but focused on  
25    different parts of the sensor. It is consequently not clear whether the term "sensor" of claim 1 is to be interpreted either as a single sensor or as a complex detection system which may consist of a plurality of independent detectors or sensors.

2.3. The present application very specifically addresses a bulk problem of cameras in mobile telephones. This specificity does not emerge from the terms of claim 1; it would seem that the protective scope sought is too wide with respect to the teaching of the application.

2.4. The terms "substrate" and "signal processing" used in claim 4 have a significance much wider than that allowed by the description (see page 4, lines 26-32 [page 5, lines 24-31 of the English]).

### 10 3. Novelty.

In so far as the claims are comprehensible (see point 2.; in particular, it is assumed below that the sensor is a single sensor), the subject matter of at least claims 1-3 and 7-9 does not conform with the novelty criterion defined by Article 33(2) PCT.

3.1. This is because D1 describes, referring to Figure 1, a photographing device comprising:

- \* a sensor (7),
- \* optical means (1-6) comprising two reflective surfaces (4, 6) and three entry pupils, each observing a part of the object field,
- \* the image of each part of the object field being focused at a separate part of the sensor.

Furthermore, D1 envisages other photographing device configurations with division of the space. In particular, D1 discloses the use of two objectives whose entry pupils are reflected jointly (see column 2, lines 48-49). In other words, the optical path followed by the radiation passing through each pupil has a catadioptric configuration.

The device of D1 consequently discloses all the characteristics of the claimed subject matter.

3.2. Furthermore, D1 discloses the following characteristics of dependent claims 2, 3 and 7-9:

- \* claims 2 and 3: see column 3, lines 32-36;

\* claim 7: the optical means comprising a mirror consist of a transparent prism (Figure 1);

\* claim 8: a pair of mirrors is indicated as an alternative to the solution based on the prism (see column 3, lines 10-14)

\* claim 9: the radiation is detected constantly.

3.3. With reference to Figures 3 and 5, D2 also discloses a photographing device comprising the characteristics corresponding to claims 1, 8 and 9 (see the passages cited in the international search report).

#### **4. Inventive Step.**

In so far as the claims are comprehensible (see point 2.), the present application does not seem to fulfill the conditions set out in Article 33(1) PCT, the subject matter of claims 5 and 6 not conforming with the inventive step criterion defined by Article 33(3) PCT. This is because the corresponding characteristics are considered as being measures obvious to the person skilled in the art when they are presented with the problems of optimizing the light collection efficiency and the bulk of the photographing device.

5. The subject matter of claim 4 comprising in combination the characteristics of claims 1 and 3 (see also the lack of clarity objections § 2.1. to 2.3. above, corresponding to claim 1) and being interpreted according to the description (see § 2.4. above), does not seem to be contained in the prior art or derive obviously from it.

#### **Concerning Point VII**

**Certain irregularities revealed in the international application**

Contrary to requirement of rule 5.1 a) ii) PCT, the description does not indicate the relevant prior art disclosed in D1 and D2 and does not cite these documents.

Independent claim 1 is not correctly presented in two parts as stipulated by rule 6.3 b) PCT.

The description does not agree with the claims, as required by rule 5.1 a) iii) PCT (see also § 2. above).